

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 60191208
 PUBLICATION DATE : 28-09-85

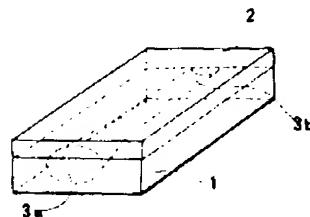
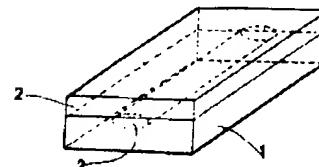
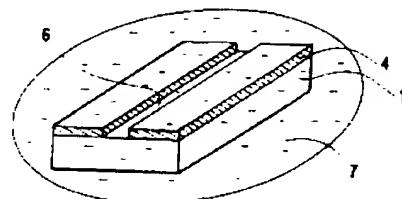
APPLICATION DATE : 12-03-84
 APPLICATION NUMBER : 59047980

APPLICANT : SUMITOMO ELECTRIC IND LTD;

INVENTOR : KAWAKAMI SHOZABURO;

INT.CL. : G02B 6/12

TITLE : OPTICAL CIRCUIT ELEMENT AND ITS
 PRODUCTION



ABSTRACT : PURPOSE: To obtain an optical waveguide which has optional spread from a visible part to an IR region with less light loss by diffusing potassium as a dopant on a glass substrate and forming a glass film thereon then diffusing again the potassium.

CONSTITUTION: An Al layer 4 including a groove 6 is formed on a glass substrate 1 contg. Na ion and is immersed in molten KNO_3 7 to diffuse K ions into the part of the groove 6. A glass film 2 is formed by RF sputtering on the substrate 1. The substrate 1 is heated to diffuse again the K ion, thus forming a diffused region 3 having a high refractive index. The diffused region 3a having ununiform spread is also formable by using a carbon dioxide laser and performing locally distributed heating. The optical waveguide having optional spread from the visible part to IR part with less light loss is thus obtd.

COPYRIGHT: (C) JPO